Background

Inaccurate documentation of patient complexity skews metrics related to length of stay (LOS), risk of mortality (ROM) and patient disease burden

Documentation practices at Cook County Health always reflected our high quality care, but opportunities existed to more accurately reflect our patient complexity

Accurate portrayals of patient complexity improves clinical outcome metrics, quality of care, reimbursement, and aligns with the IMPACT 2020 Strategic Plan

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Background: Documentation and IMPACT 2020

Objective 1.1: Standardize clinical operations, practices and procedures across the System to improve quality, reliability, and efficiency

Objective 3.4: Improve provider documentation to support coding and billing to reflect the level of service provided and the complexity of illness of the patients

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Background: How Documentation Works

- Diagnosis Related Groups (DRGs) created by CMS to simplify the ICD-10 into 740+ groups

- *Most* conditions can be classified into 3 different DRGs (triplet)

- DRGs change with patient comorbidities which are labeled "complications and co-morbidities" (CC) and "major complications and co-morbidities" (MCC)

Example:

Pneumonia in a healthy patient: DRG 195

Pneumonia in a patient with acidosis (CC): DRG 194

Pneumonia in a patient with sepsis (MCC): DRG 193

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Background: Capture Rate

The capture rate is the percentage of discharged patients that have a CC or MCC as compared with the base DRG

Example:

100 patients are discharged with pneumonia (base DRG 195)

60 had a CC or MCC "captured" in the documentation

$$\text{Capture rate} = \frac{60 \text{ pts with CC or MCC}}{100 \text{ pts total with pneumonia}} = 60\%$$

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Background: Case Mix Index

- Each DRG is assigned a relative weight by CMS

- Imparts complexity, resource use, length of stay and reimbursement

- The case mix index (CMI) is the average relative weight for all discharged patients

Example

 Normal newborn (DRG 795) : 0.18

 Pneumonia w/o CC or MCC (DRG 195) : 0.68

 Pneumonia w/ MCC (DRG 193) : 1.31

 Heart transplant with MCC (DRG 001) : 26.41

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Aim Statement

- We seek to improve our institutional CMI with a system-wide educational effort focused on divisional didactics and training supported by software-driven identification of improvement opportunities in real time.

  - Surgical CMI target May 2020: 3.1 (baseline 2.4)

  - Medical CMI target May 2020: 1.3 (baseline 0.98)

  - System-wide capture rate May 2020: 75% (baseline 45%)
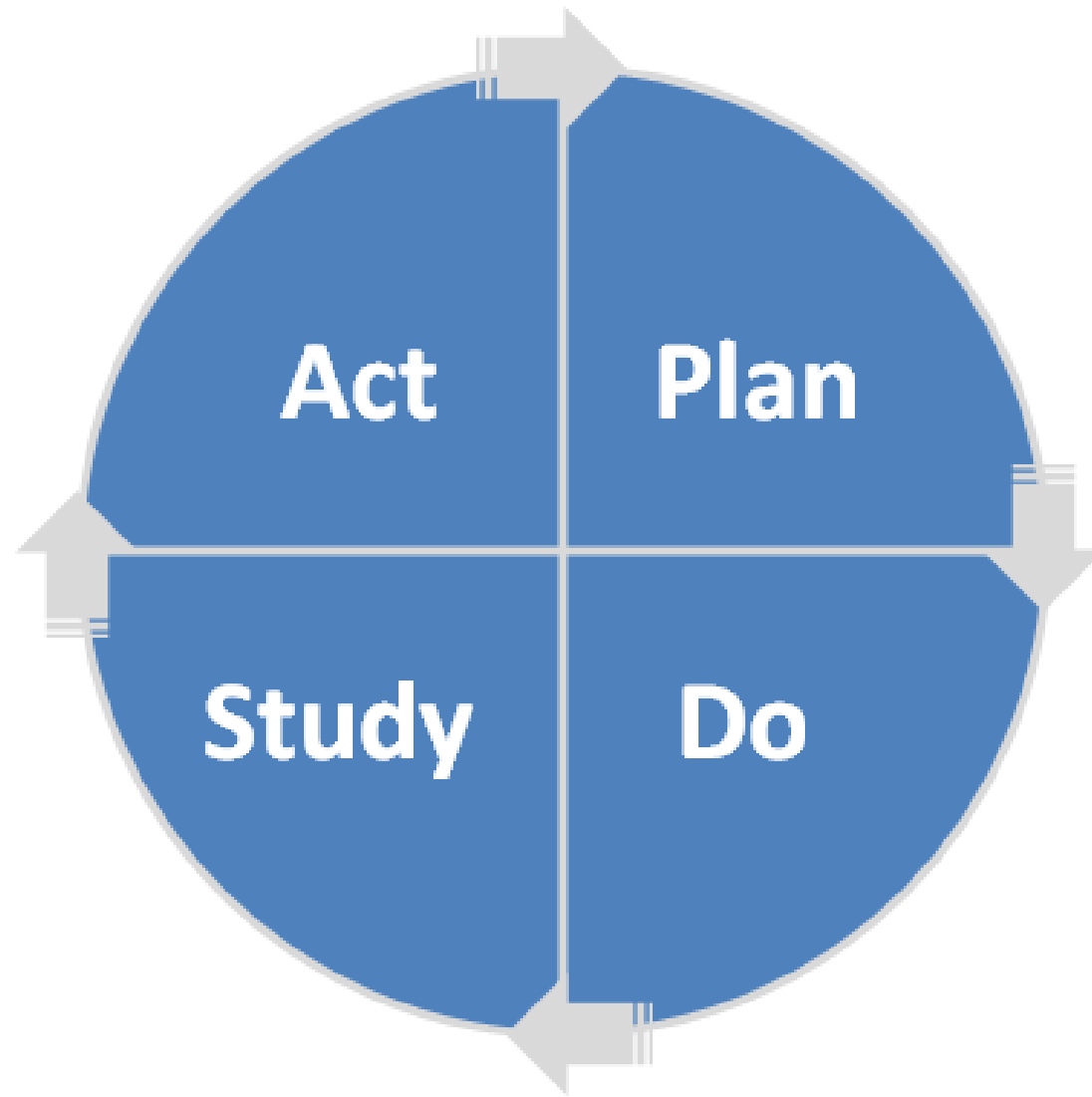
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Plan

Plan

1. Recruit physician leaders from each division with admitting privileges to act as "documentation champions"

2. Assist "documentation champions" in crafting and distributing documentation educational sessions to attendings and house staff (train the trainer)

3. Utilize the clinical documentation team in conjunction with software to identify documentation shortfalls and suggest real-time alternatives

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Do

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Do

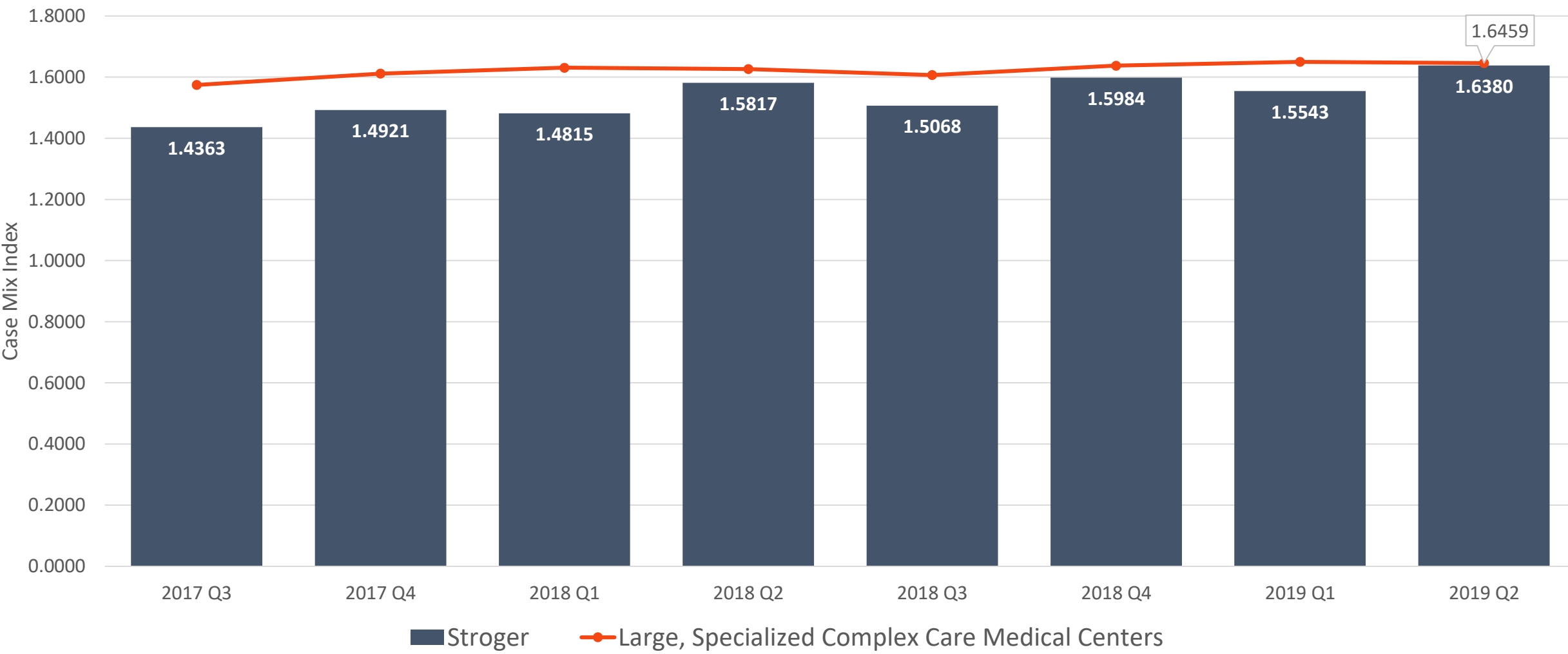| Division	Champion
Internal Medicine	Michael Alebich, DO
General Surgery	Jacqueline Harrison, MD
Family Medicine	Tom Sweder, MD
Medical Critical Care	Shashvat Sukhal, MD
Surgical Critical Care	Alex Sauper, MD
Cardiology	Tareq Alyousef, MD
Thoracic Surgery	Ozuru Ukoha, MD
Neurosurgery	Patricia Raksin, MD
Infectious Diseases Inpatient	Vanessa Sarda, MD
Vascular Surgery	Erin Farlow, MD
OB/GYN	Megan App, MD

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Study

Case Mix Index
Medical MS-DRG

Case Mix Index chart showing Stroger bar values, Stroger Goal (dashed line at ~1.3), and Large, Specialized Complex Care Medical Centers2 (line).

Quarter	Stroger
2017 Q3	1.0682
2017 Q4	1.1386
2018 Q1	1.1293
2018 Q2	1.1682
2018 Q3	1.1459
2018 Q4	1.2011
2019 Q1	1.2034
2019 Q2	1.2163

Legend: Stroger | Stroger Goal | Large, Specialized Complex Care Medical Centers2

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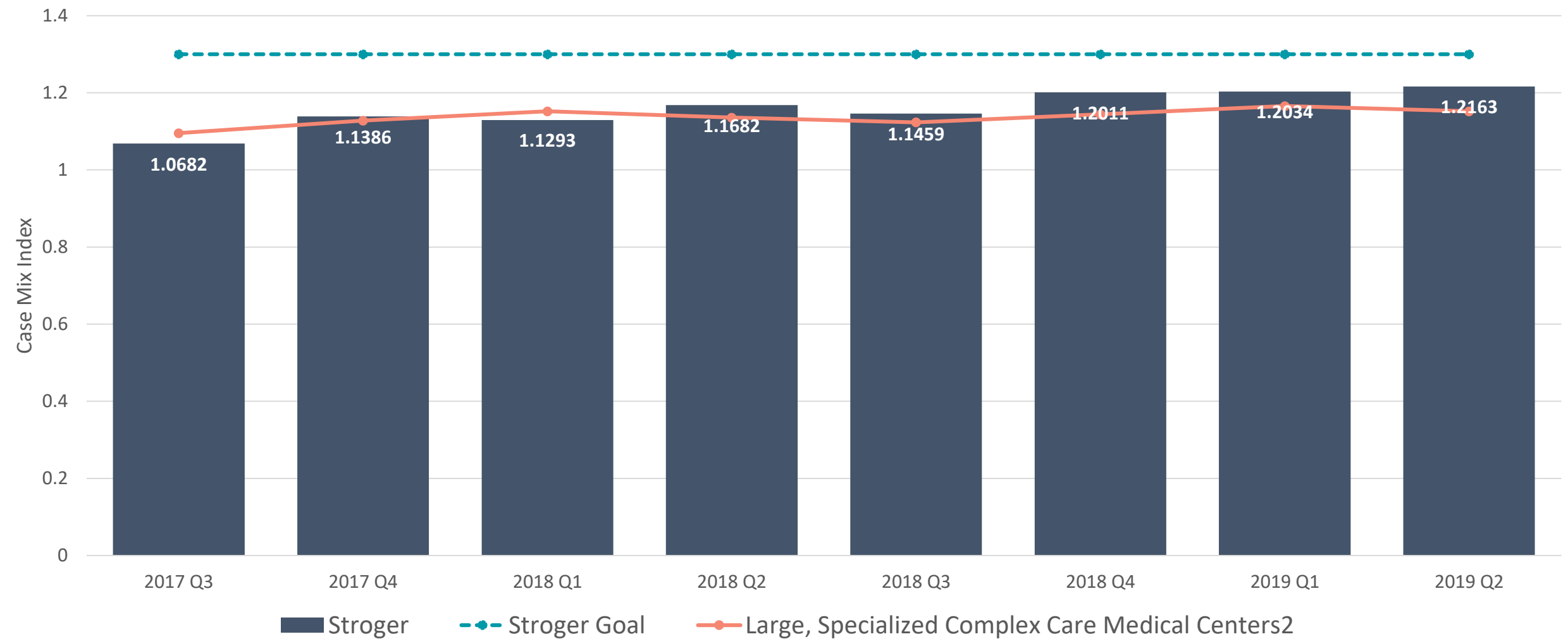
Case Mix Index
Surgical MS-DRG

Case Mix Index (Y-axis)

Quarter	Stroger
2017 Q3	2.4759
2017 Q4	2.4950
2018 Q1	2.4838
2018 Q2	2.6988
2018 Q3	2.5227
2018 Q4	2.6890
2019 Q1	2.5890
2019 Q2	2.7416

Legend: Stroger | Stroger Goal | Large, Specialized Complex Care Medical Centers2

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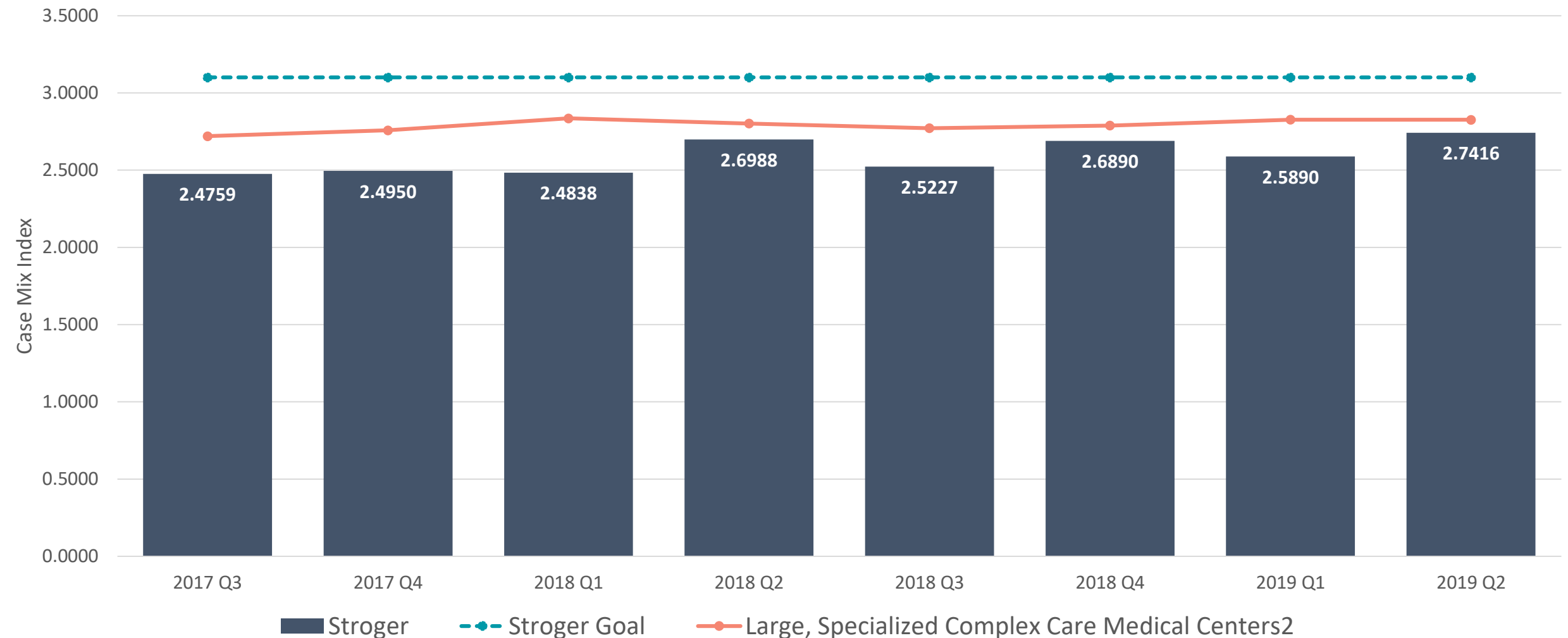
Medical CC/MCC Capture
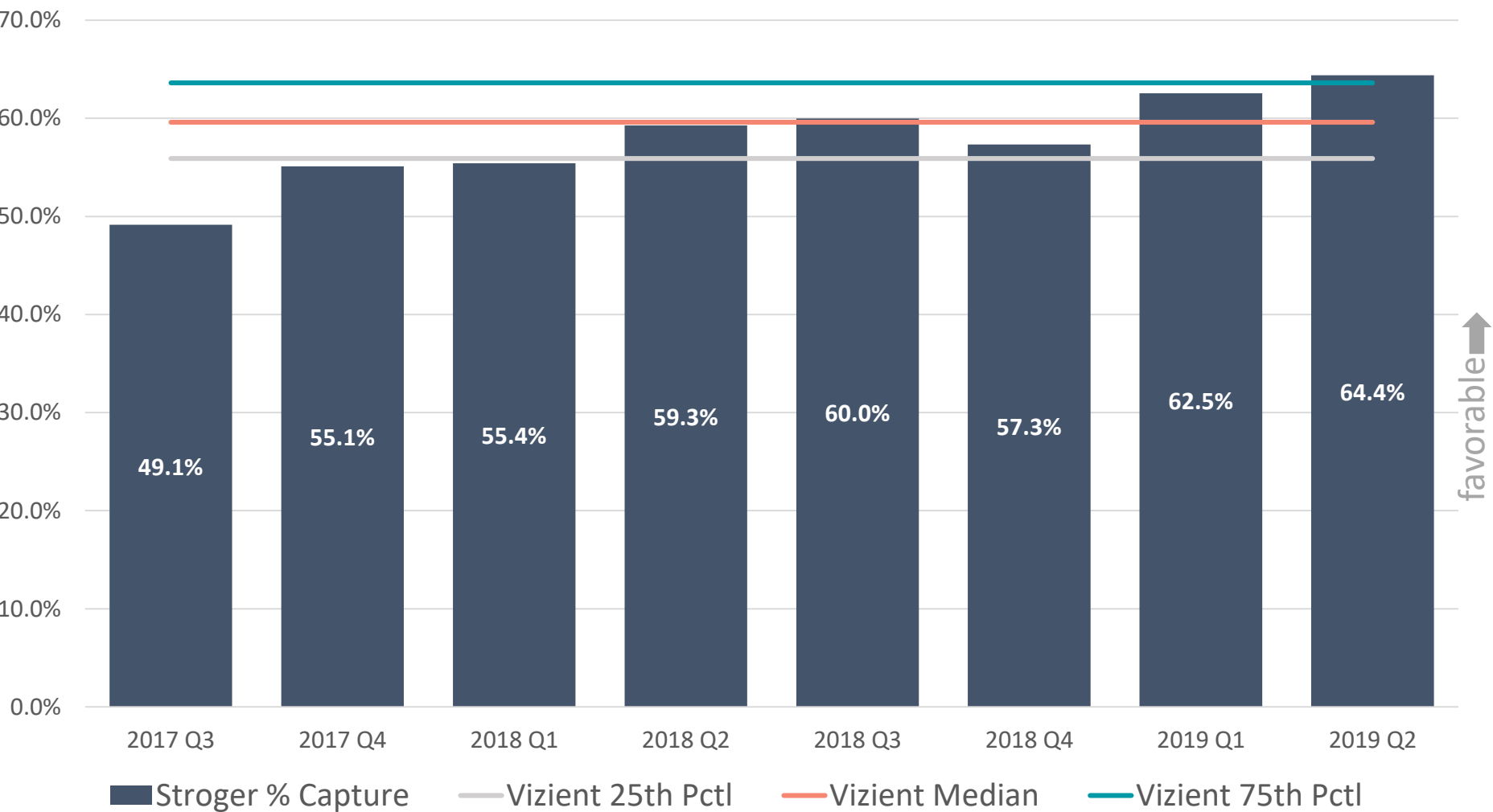
Vizient Baseline (2018Q2-2019Q1)	
Total	59.3%
Mean	59.5%
Minimum	48.3%
25th Percentile	55.9%
50th Percentile	59.6%
75th Percentile	63.6%
Maximum	73.2%
HIGHER IS BETTER	

2019 Q2= 64.4%

Chart data (Stroger % Capture):
- 2017 Q3: 49.1%
- 2017 Q4: 55.1%
- 2018 Q1: 55.4%
- 2018 Q2: 59.3%
- 2018 Q3: 60.0%
- 2018 Q4: 57.3%
- 2019 Q1: 62.5%
- 2019 Q2: 64.4%

Legend: Stroger % Capture — Vizient 25th Pctl — Vizient Median — Vizient 75th Pctl

favorable ↑

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CMS MSDRG's Complications and Co-morbidities (CC's) and Major Complications and Comorbidities (MCC's) are diagnoses that CMS has determined will increase LOS and/or cost when they are present and therefore also increase MSDRG reimbursement.

Surgical CC/MCC Capture

Vizient Baseline (2018Q2-2019Q1)	
Total	51.4%
Mean	51.7%
Minimum	33.6%
25th Percentile	46.5%
50th Percentile	51.8%
75th Percentile	56.3%
Maximum	73.5%
HIGHER IS BETTER	

2019 Q2 = 60.2%

Chart data (Stroger % Capture):
- 2017 Q3: 51.6%
- 2017 Q4: 55.1%
- 2018 Q1: 56.6%
- 2018 Q2: 58.6%
- 2018 Q3: 56.8%
- 2018 Q4: 58.6%
- 2019 Q1: 59.5%
- 2019 Q2: 60.2%

Legend: Stroger % Capture — Vizient 25th Pctl — Vizient Median — Vizient 75th Pctl

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CMS MSDRG's Complications and Co-morbidities (CC's) and Major Complications and Comorbidities (MCC's) are diagnoses that CMS has determined will increase LOS and/or cost when they are present and therefore also increase MSDRG reimbursement.
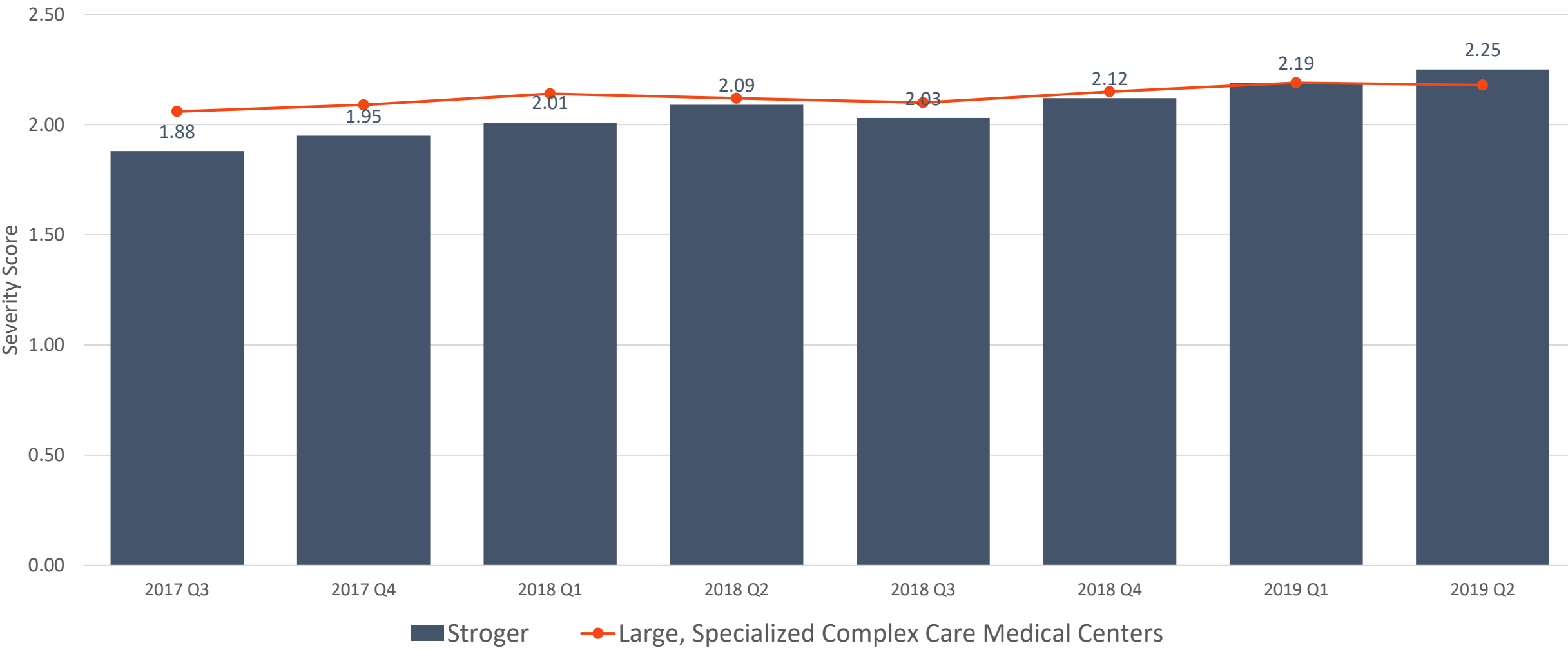
Mean Diagnosis Codes per Case
Comparison to Similar Hospitals in Vizient

Mean Dx Codes at Stroger
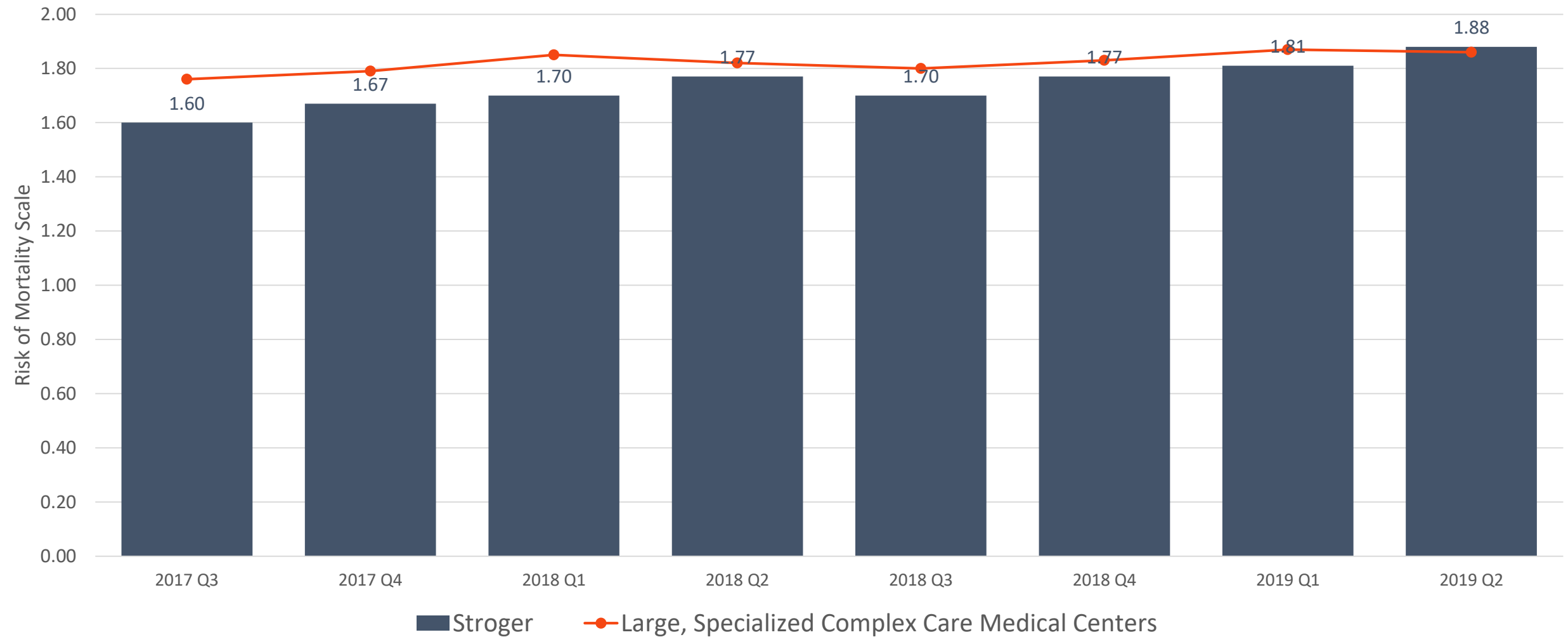**60.8% increase** from 2017 Q3 to 2019 Q2
9.9% in similar hospitals

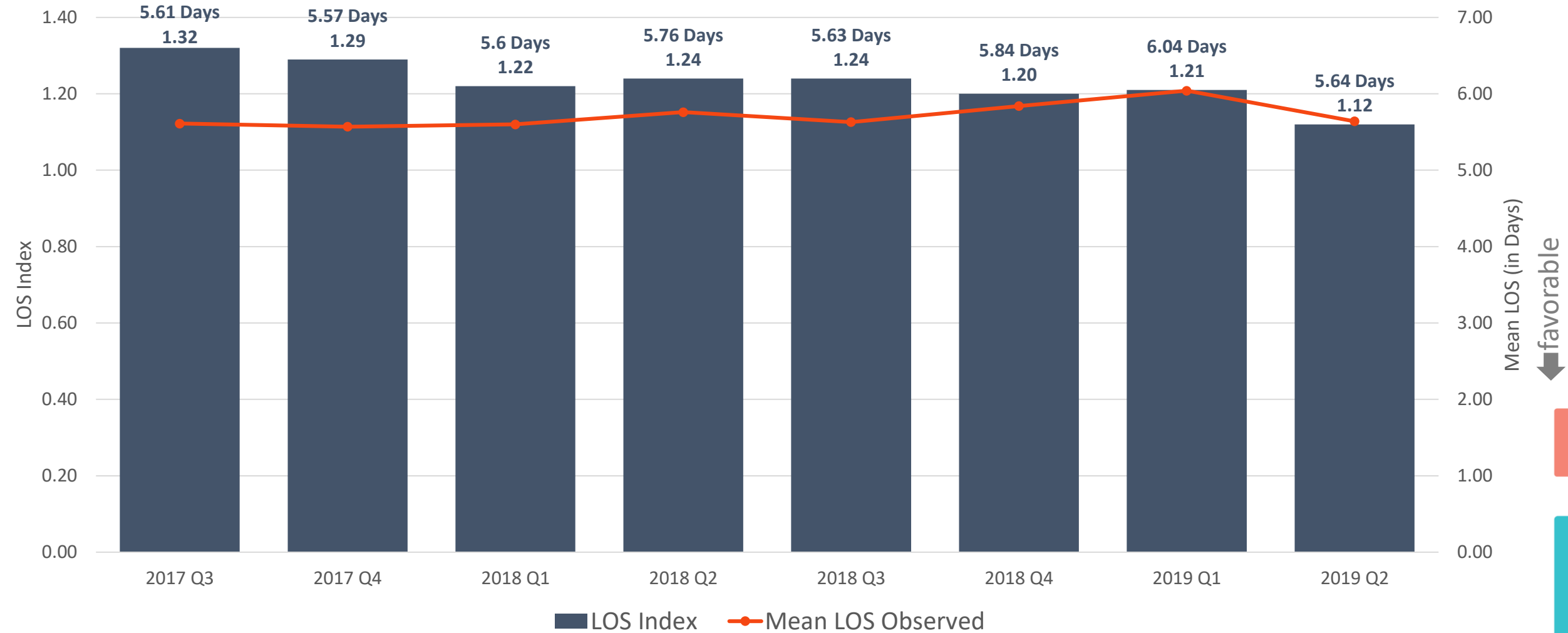|	2017 Q3	2017 Q4	2018 Q1	2018 Q2	2018 Q3	2018 Q4	2019 Q1	2019 Q2
Stroger	8.35	9.24	10.23	10.74	10.52	11.04	11.67	13.43

Legend: ■ Stroger —●— Large, Specialized Complex Care Medical Centers

Y-axis: Mortality Index

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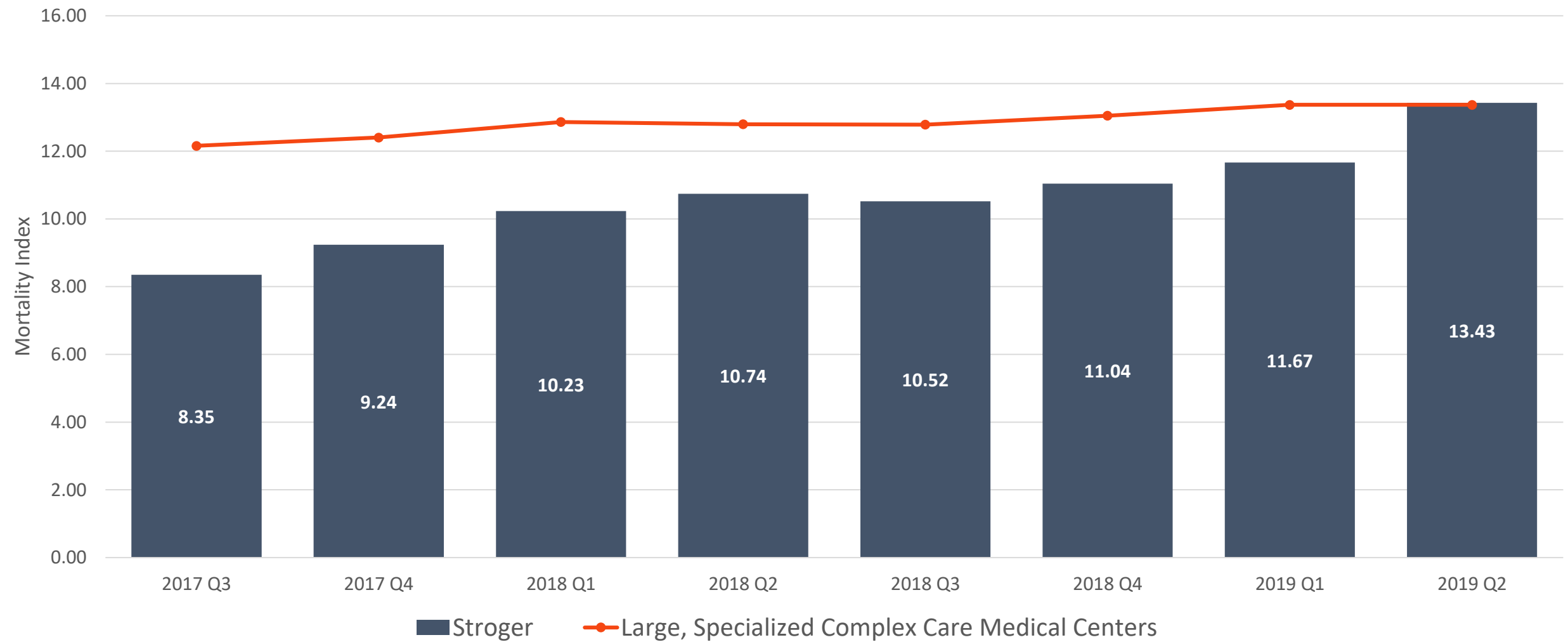
Length of Stay Index
LOS Index and Mean LOS (in Days)

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Data Source: Vizient Clinical Data Base
Preliminary Data: May and June 2019
LOS Index above 1 indicates greater than expected; below 1 less than expected
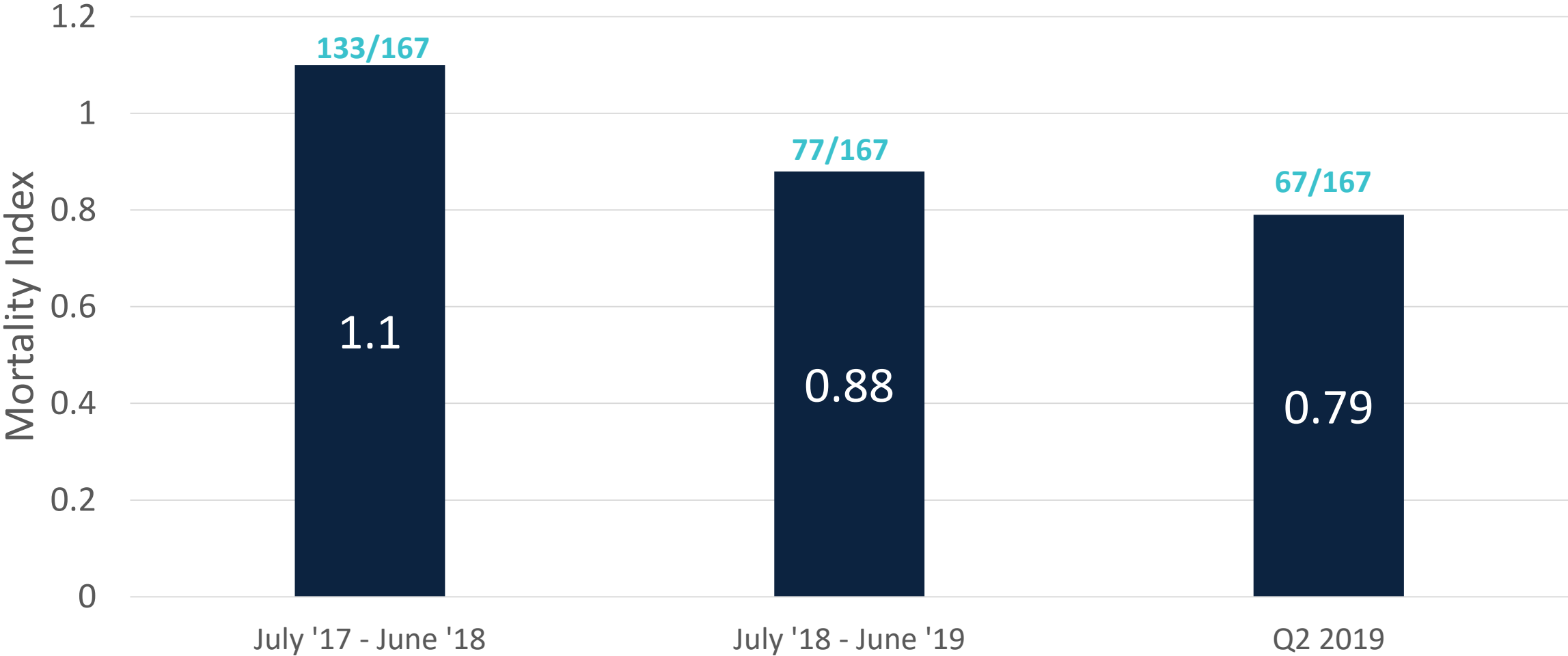
Study Summary
Lessons Learned

- Major progress made with medical DRGs, with further work now focused on identifying more nuanced lapses in documentation rather than "low hanging fruit"

- Surgical DRG improvement relies on continued educational efforts (surgical house staff mostly rotators and thus more logistically challenging) and collaboration with medical consultants to capture medical complexity

- Real time examples necessary to train those not well-versed in this relatively new domain

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Thank You

Questions?

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